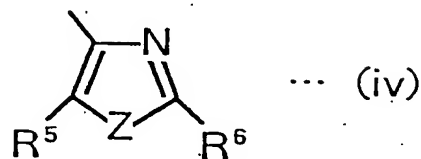
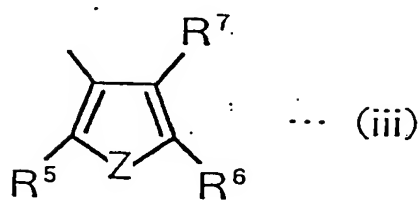
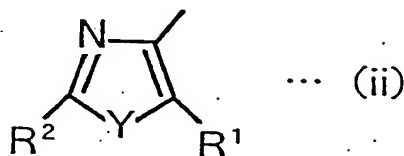
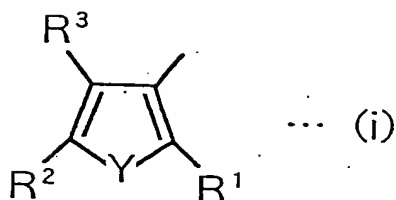
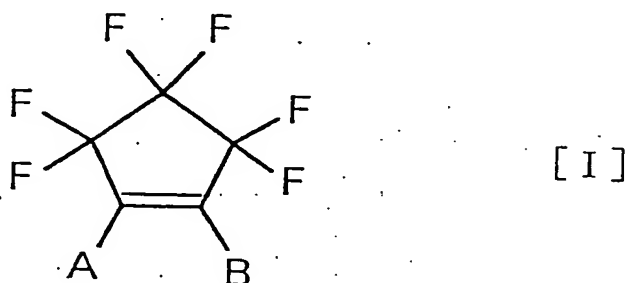


What is claimed is:

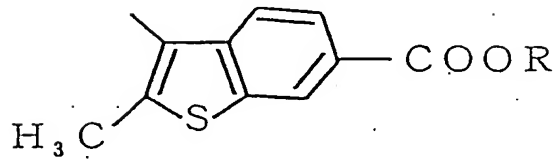
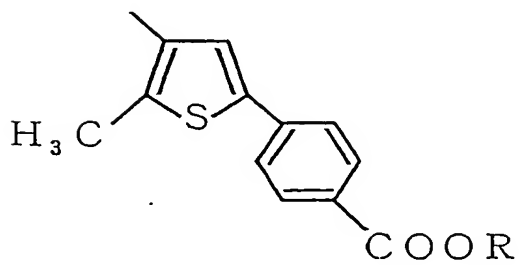
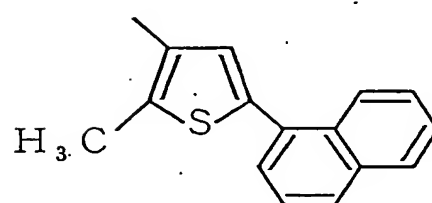
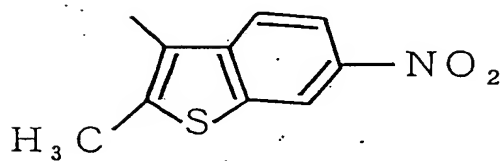
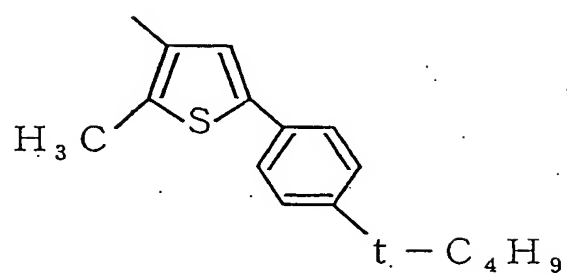
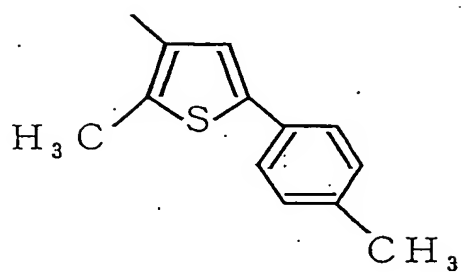
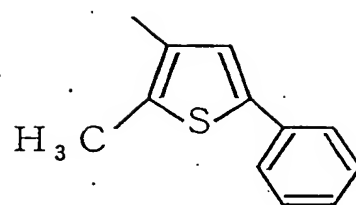
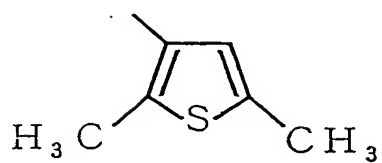
1. A photo-induced phase transition organic material composed of a diheteroarylethene compound within which photo-chromic reaction occurs in a crystalline state, said diheteroarylethene compound being expressed by a following general formula I:

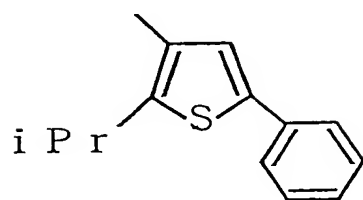
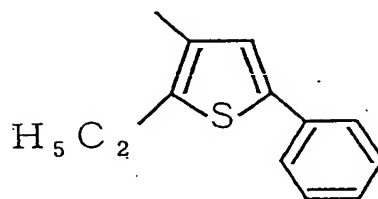
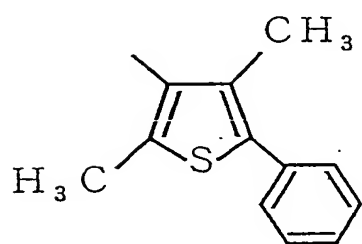
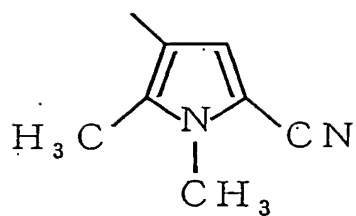
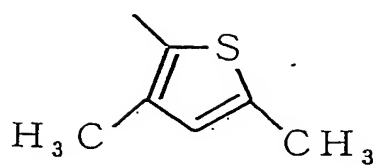


where substituents A and B are selected such that "A" expresses a substituent (i) or (ii), "R1" expresses an alkyl group, an alkoxyl group, a halogen atom, a trifluoromethyl group, a cyano

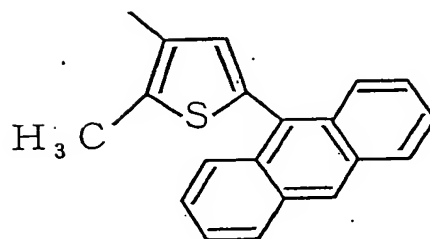
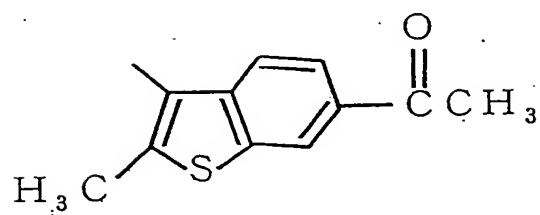
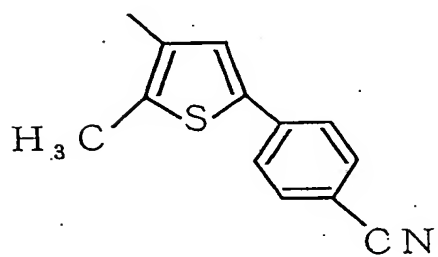
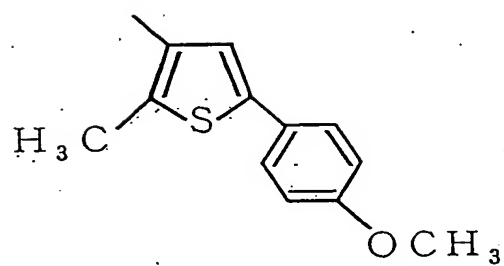
group, or an aryl group which may have at least one substituent; "R2" and "R3" express a hydrogen atom, an alkyl group, an alkoxy group, a halogen atom, a trifluoromethyl group, a cyano group, or an aryl group which may have at least one substituent, respectively, wherein "R2" and "R3" are independent of each other; or "R2" and "R3" are bonded to be a carbocyclic ring which may have at least one substituent, or a heterocyclic ring which may have at least one substituent; "Y" expresses -O-, -S-, or -NR⁴- in which "R⁴" expresses a hydrogen atom, an alkyl group which may have at least one substituent, an aryl group which may have at least one substituent, or a cycloalkyl group which may have at least one substituent; and "B" expresses a substituent (iii) or (iv), "R5" expresses an alkyl group, an alkoxy group, a halogen atom, or a trifluoromethyl group; "R6" and "R7" express a hydrogen atom, an alkyl group, an alkoxy group, a halogen atom, a trifluoromethyl group, a cyano group, or an aryl group which may have at least one substituent, respectively, wherein "R6" and "R7" are independent of each other; or "R6" and "R7" are bonded to be a carbocyclic ring which may have at least one substituent, or a heterocyclic ring which may have at least one substituent; "Z" expresses -O-, -S-, or -NR⁴- in which "R⁴" expresses a hydrogen atom, an alkyl group which may have at least one substituent, an aryl group which may have at least one substituent, or a cycloalkyl group which may have at least one substituent.

2. A photo-induced phase transition organic material as claimed in claim 1, wherein each of said substituents A and B is selected from the following substituents in which "R" expresses an alkyl group or a phenyl group:





(iPr=isopropyl)



3. A photo-induced phase transition organic material as claimed in claim 1, wherein the diheteroarylethene compound is to be transferred in phase from an open-ring form to a closed-ring form with ultraviolet irradiation, and to be transferred in phase from the closed-ring form to the open-ring form with visible-light irradiation.